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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,357	09/01/2006	Markus Schlesiger	58060/M521	9562

23363 7590 12/03/2010

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EXAMINER	
JEN, MINGJEN	

ART UNIT	PAPER NUMBER
3664	

MAIL DATE	DELIVERY MODE
12/03/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	**Application No.** 10/591,357	**Applicant(s)** SCHLESIGER ET AL.
	Examiner IAN JEN	**Art Unit** 3664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 October 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *28-54* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *28-54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 October 2010* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is response to remark entered on October 22nd, 2010.

2. Claims 28 - 54 are pending in the current application.

3. Claims 42 and 49 have been amended.

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

5. The amendment filed October 22nd, 2010 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Applicant newly filed amendment to specification added new matter that was not previously supported by the original specification. For example, logic circuit and shift registers were not even previously disclosed or mentioned in the specification nor has it been illustrated in the drawing.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 28 – 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Khan et al (US Pat No 5828812) in view of Kliffken et al (US Pat No 6630808).

As for claim 28, Khan et al shows inputting at input neurons of an input layer of a neural network (Co2 2, lines 60 - 65), a plurality of input signals being derived from the drive device (Col 4, lines 55 – 65; Col 2, lines 60 - 65; neuron input signal obtained from the plant 22; see Fig 2B); the neural network comprises at least one hidden layer having hidden neurons and an output layer having at least one output neuron(Col 5, lines 60 – 65 for output layer; Col 6, lines 1 – 10 for hidden layer;), neural network outputting, at least one output neuron of the output layer (Col 5, lines 60 – 65 for output layer), an output value corresponding to one of an adjusting value (Col 7, lines 55 – Col 8, lines 45, the modification of weight in neuron weight), a trapped state and a nontrapped state of the component (Col 10, liens 45 – 59 for output compare with threshold value for determine trapped/nontrapped state and further adjusting the weight value for force); Khan et al is silent regarding input signals being derived from the drive device and representing a deceleration of the adjustment movement of the drive device; the adjust value is the adjusting force. Kliffken et al shows input signals being derived from the drive device and representing a deceleration of the adjustment movement of the drive device (Col 2, lines 25 – 40; see the Newtonian equation obtained from the input); and the adjust value is the adjusting force (the Newtonian equation as the adjusted force output; Col 2, lines 25- 40). It would have been obvious for one ordinary skill in the art, to provide an input signal and output force signal,

conversion means, as taught by Kliffken et al, to the neural network processing means of Khan et al, in order to provide the device operation of Khan et al.

As for claim 31, Khan et al shows the input signals being derived from the drive device are input in parallel or in series to the input neurons of the input layer of the neural network (See Fig 3, 5).

As for claim 32, Khan et al shows inputs of the input layer, of the at least one hidden layer and of the output layer as well as connections of the input layer to the at least one hidden layer, connections of plurality of hidden layers to one another and connections of the at least one hidden layer to the output layer have differing weightings (See Fig 5; Col 7, lines 55 – Col 8, lines 45, the modification of weight in neuron weight).

As for claim 33, Khan et al shows the hidden neurons of the at least one hidden layer and the at least one output neuron of the output layer have one of constant threshold value and bias which shifts an output of transfer functions of the neurons of the at least one hidden layer and the output laver into a constant region (Col 10, liens 45 – 59 for output compare with threshold value for determine trapped/nontrapped state and further adjusting the weight value for force).

As for claim 34, Khan et al shows in a learning phase for at least one of the input neurons, the hidden neurons and the at least one output neurons of the neural network, the method further comprising: assigning random weights; predefining various input patterns which

are applied to the input neurons and calculating the associated at least one output value; changing at least one of the weightings and a threshold value as a function of the difference between the at least one output value and at least one target output value (Col 5, lines 23 – 55;learning phase; Col 5, lines 55 – Col 7, lines 25).

As for claim 35, Khan et al shows a degree of change in the weightings depends on the magnitude of the difference between the at least one output value and the at least one target output value (Col 10, lines 45 – Col 11, lines 55).

As for claim 38 – 44, Khan et al shows an adaptation period specifying a period calculated at a predefined reference voltage and is being associated with a position on a reference travel path stored in a learning phase is input into the input neurons as an additional input signal (See Fig 6, 7) and the adaptation period is averaged, wherein the neural network calculates a new adaptation period at one of each full rotation of a drive motor of the drive device and in four quarter periods of the drive motor, said new adaptation period being-provided at the next adjustment movement as the adaptation period (See Fig 6, 7) and the input signals of the input neurons comprise: values of an adaptation profile of the component being adjustable in a translatory fashion; values of an adaptation period during the adjustment movement of the component in translatory fashion; a run up flag; output values of a shift register for terminal voltages of a drive motor of the drive device; output values of a shift register for period values; a temperature of the drive motor; an ambient temperature; a speed signal; an oscillation voltage and preceding output value; wherein the adjusting force being determined by the neural network

is output as the output value of the at least one output neuron (See Fig 6, 7); the learning phase of the neural network an adaptation period is, after each run determined anew during operation of the drive device(See Fig 6, 7); the learning phase takes place in the vehicle before operational application (Col 5, lines 25 - 55); weightings of the neural network being determined in the learning phase are defined during the operational application (See Fig 5).

As for claim 45 - 47 Khan et al shows utilizing an adaptation device for determining signals for the drive device, the signals being normalized by a reference value, and for outputting adaptation values to the input layer of the neural network (See col 10, lines 45 - 65); the adaptation device inputs, dependent on a position of the component being driven by the drive device, the adaptation values to the input neurons of the neural network as an additional input signal (Col 15, lines 25 - 65);the adaptation device comprises a neural adaptation network to whose input neurons at least one signal of the drive device is applied and whose at least one output neuron outputs the position dependent adaptation values to the neural network (See Fig 3, 4 and 5) .

As for claim 49, Khan et al shows the adaptation device comprise one of a model of the drive device, a fuzzy system and a mathematical model with a genetically generated algorithm (See Fig 3, 4 and 5).

As for claim 54, Khan et al shows evaluating the input signal by means of neural network in order to determined at least one of a state of plant and a state of an adjustment device

comprising the drive device (See Fig 3 - 5); selecting a set of weightings for the neural network from plurality of sets of weighting independent of the evaluation of the input signals and the determining states and using the selected set of weightings to operate the neural network while controlling the drive device for driving the adjustable component (See Fig 3 - 5).

As for claim 29, 30, 36, 37, 41, 48, 50, Khan et al is silent regarding the input signals derived from the drive device indirectly represent the deceleration of the adjustment movement of the drive device; the deceleration of the adjustment movement of the drive device is determined from a change in at least one of a period length, a motor current, a motor voltage of a drive motor of the drive device; measuring the output value with a clip-on force measuring instrument at different spring constant wherein the clip-on force measuring instrument outputs the measured output value in an analogous manner to the input signals; a function of a desired sensitivity of a system comprising the drive device at low spring constants; additional parameters comprising an ambient temperature, one of climatic data and a temperature and a cooling behavior of a drive motor of the drive device are applied to the input; a drive motor of the drive device is one of stopped and reversed as a function of the output value of the neural network and a spring constant;

Kliffken et al shows the input signals derived from the drive device indirectly represent the deceleration of the adjustment movement of the drive device (Col 2, lines 25 – 40; see the Newtonian equation obtained from the input); the deceleration of the adjustment movement of the drive device is determined from a change in at least one of a period length, a motor current, a motor voltage of a drive motor of the drive device (Col 1, lines 65 – Col 2, lines 8); measuring

the output value with a clip-on force measuring instrument at different spring constant wherein the clip-on force measuring instrument outputs the measured output value in an analogous manner to the input signals (Col 3, lines 55 - 65); a function of a desired sensitivity of a system comprising the drive device at low spring constants (Col 3, lines 45 – Col 4, lines 20); additional parameters comprising an ambient temperature, one of climatic data and a temperature and a cooling behavior of a drive motor of the drive device are applied to the input (Col 3, lines 45 – Col 4, lines 20); a drive motor of the drive device is one of stopped and reversed as a function of the output value of the neural network and a spring constant (Col 3, lines 45 – Col 4, lines 20). It would have been obvious for one ordinary skill in the art, to provide an input signal and output force signal, conversion means, as taught by Kliffken et al, to the neural network processing means of Khan et al, in order to provide the device operation of Khan et al.

As for claim 51, Khan et al shows a logic combination of the drive device with the output value of the neural network is carried out by means of one of a logic circuit, a mathematical model with an algorithm and a neural logic network (See Fig 3 – 5). Khan et al is silent regarding spring constant; Kliffken et al shows spring constant (Col 3, lines 45 – Col 4, lines 20). It would have been obvious for one of ordinary skill in the art, to provide the spring constant as parameter, as taught by Kliffken et al , to the neural network of Khan et al, in order to provide an input signal for window, as taught by Khan et al.

As for claim 52, 53, Khan et al is silent regarding a rotational speed of the drive motor is sensed, and the difference in rotational speed between two period of the drive motor is formed and logically combined with the output value of the neural network in such a way that: if a first

switch-off threshold value of the output value of the neural network is exceeded an the difference in rotational speed is smaller than a predefined threshold value for difference in rotational speed, the drive motor is one of stopped and reversed, up to the end of adjustment movement, if an only if the output value of the neural network exceeds a second switch-off threshold value which is greater than the first switch-off threshold value; if the first switch-off threshold value of the output value of the neural network is exceed and the difference in rotational speed is greater than the predefined threshold value for the difference in rotational speed, the drive motor is one of stopped an reversed; and if the second switch off threshold value is exceeded, the drive motor is one of the stopped and reversed irrespective of the difference in rotational speed. Kliffken et al shows a rotational speed of the drive motor is sensed (Col 5, lines 1 - 55), and the difference in rotational speed between two period of the drive motor is formed and logically combined with the output value in such a way that: if a first switch-off threshold value of the output value is exceeded an the difference in rotational speed is smaller than a predefined threshold value for difference in rotational speed (Col 5, lines 1 - 55), the drive motor is one of stopped and reversed, up to the end of adjustment movement (Col 5, lines 1 - 20), if the output value exceeds a second switch-off threshold value which is greater than the first switch-off threshold value (Col 5, lines 1 - 55) ; if the first switch-off threshold value of the output value of the neural network is exceed and the difference in rotational speed is greater than the predefined threshold value for the difference in rotational speed (Col 5, lines 1 - 55), the drive motor is one of stopped an reversed (Col 5, lines 1 – 55; Col 2, lines 25 – 40; see the Newtonian equation obtained from the input); and if the second switch off threshold value is exceeded, the drive

motor is one of the stopped and reversed irrespective of the difference in rotational speed (Col 5, lines 1 - 55).

Response to Arguments

8. In response to applicant's remark that Khan et al does not show the recited claim limitation, inputting at input neurons of an input layer of a neural network , a plurality of input signals being derived from the drive device; the neural network comprises at least one hidden layer having hidden neurons and an output layer having at least one output neuron, neural network outputting, at least one output neuron of the output layer, an output value corresponding to one of an adjusting value , a trapped state and a nontrapped state of the component; input signals being derived from the drive device and representing a deceleration of the adjustment movement of the drive device; and the adjust value is the adjusting force.

Applicant's attention is directed to Khan et al where Khan et al shows inputting at input neurons of an input layer of a neural network on Co2 2, lines 60 - 65, a plurality of input signals being derived from the drive device on Col 4, lines 55 – 65; Col 2, lines 60 - 65; neuron input signal obtained from the plant 22; see Fig 2B; the neural network comprises at least one hidden layer having hidden neurons and an output layer having at least one output neuron on Col 5, lines 60 – 65 for output layer; Col 6, lines 1 – 10 for hidden layer; neural network outputting, at least one output neuron of the output layer on Col 5, lines 60 – 65 for output layer, an output value corresponding to one of an adjusting value on Col 7, lines 55 – Col 8, lines 45, the modification of weight in neuron weight, a trapped state and a nontrapped state of the component on Col 10, liens 45 – 59 for output compare with threshold value for determine trapped/nontrapped state and

further adjusting the weight value for force); where Kliffken et al shows input signals being derived from the drive device and representing a deceleration of the adjustment movement of the drive device on Col 2, lines 25 – 40; see the Newtonian equation obtained from the input; and the adjust value is the adjusting force on the Newtonian equation as the adjusted force output on Col 2, lines 25- 40; It is further noted that applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references; In this instant case, applicant merely address Khan et al with respect to recited claim limitation; where the recited claim limitation has been addressed by Khan et al in view of Kliffken et al;

Further, in response to applicant's remark that one of ordinary skill in the art would not look to combine both reference since a combination of the recited reference would not yield a claimed invention due to claim feature; It is noted that the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. In this instant case, Khan et al shows neural network has an input layer along with neural network output adjusted accordingly with respect to input, where Kliffken et al provides a input means as for the input layer of Khan et al where Kliffken et al provides a known device and means as Khan et al provides known implementation method, for the input signal of Kliffken et al, as ready for improvement to yield predictable results. Further, in response to applicant's argument that the fuzzy logic system of Khan et al is not compatible with the approach of Kliffken et al, the test for obviousness is not whether the features of a secondary reference may

be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IAN JEN whose telephone number is (571)270-3274. The examiner can normally be reached on Monday - Friday 9:00-6:00 (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Khoi Tran can be reached on 571-272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ian Jen/
Examiner, Art Unit 3664
/KHOI TRAN/

Supervisory Patent Examiner, Art Unit 3664